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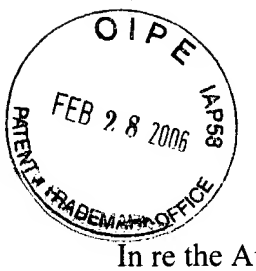

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 3854)

In re the Application of:	)	
	)	
Friesen et al.	)	Group Art Unit: 3624
	)	
Serial No. 09/289,550	)	Examiner: Kyle
	)	
Filed: April 9, 1999	)	
	)	
For: User Interface for an Electronic Trading System	)	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

1. We are transmitting herewith the attached:
   A. Appellant's Brief in Support of the Appeal to the Board of Patent Appeals and Interferences
   B. Return Receipt Postcard.

2. With respect to additional fees, attached is a check in the amount of $500.00

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By: _____
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No	:	09/289,550
Applicants	:	Richard W. Friesen et al.
Filed	:	04/09/1999
TC/A.U.	:	3624
Examiner	:	Charles R. Kyle
Docket No.	:	3854

APPELLANTS' BRIEF IN SUPPORT OF
THE APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

I. Real Party in Interest

The real party in interest for the above-referenced application is Trading Technologies International, Inc. whose address is 222 S. Riverside Plaza, Suite 1100, Chicago, Illinois, 60606.

II. Related Appeals and Interferences

Appellants' legal representative is unaware of any other appeals or interferences that will directly affect, be directly affected by, or have any bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98 currently stand rejected. The claims were finally rejected in the Office Action mailed on April 21, 2005. A Pre-Appeal Brief was filed on October 19, 2005, along with a Notice of Appeal. Applicants received a panel decision, mailed January 30, 2006, maintaining the rejection of the claims. This Appeal Brief is being filed within one month of the mailing date of that panel decision. Applicants appeal the rejections of claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98.

IV. Status of Amendments

No amendments have been filed subsequent to final rejection.

V. Summary of Claimed Subject Matter

Appellants' invention relates to the field of graphical user interfaces for electronic trading systems. The graphical user interface allows a remote trader to view trends in the market for an item and provides trading information in an easy to see and interpret graphical format. The graphical user interface also allows individual traders to place orders, including bids and offers, on remote client terminals that are routed to a transaction server, which matches the bids and offers. Bids refer to orders submitted by traders to buy the item and offers refer to orders submitted from traders to sell the item. Trading information from the transaction server is communicated back to the client terminals.

Appellants' independent Claim 1 claims a method embodiment for "facilitating the placement of an order for an item and for displaying transaction information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value."

To carry out this method, Claim 1 calls for "displaying a plurality of bid indicators" and "displaying a plurality of offer indicators." A bid indicator corresponds to "at least one bid for a quantity of the item" and "each bid indicator" is at a "location along a first scaled axis of values corresponding to a value associated with at least one bid." An offer indicator corresponds to "at least one offer for a quantity of the item" and "each offer indicator" is displayed at a "location along the first scaled axis of values corresponding to a value associated with the at least one offer." To facilitate the placement of an order using such a display, Claim 1 further calls for "displaying an order icon" associated with a user's order for a particular quantity of the item and in response to a user initiated command, "moving the order icon to a location associated with a value along the first scaled axis of values." Figure 3a of Appellants' specification, and corresponding text starting on page 11, line 9, illustrates an example embodiment where indicators 300 represent bids, indicators 304 represent offers, a values axis is shown at 332, and an order icon is shown to be moveable to a location associated with a value along the value axis 332. As illustrated in the figure, the order icon is currently positioned at a location that is associated with the value "26.28."

Appellants' independent Claim 86 similarly relates to a program code for "displaying a plurality of bid indicators" and "displaying a plurality of offer indicators" where each bid indicator and offer indicator is displayed at a location "along the first scaled axis of values corresponding to a value" associated with the bid or offer. The program code includes displaying an "order icon" associated with a user's order for a particular quantity of the item and in response to a user initiated command, "moving the order icon to a location associated with a value along the first scaled axis of values."

Appellants' independent Claim 87 claims a method embodiment for displaying transactional information to a user by "displaying a plurality of bid indicators" and a "plurality of offer indicators" at locations corresponding to values along a scaled axis such that the "values represent a derivative of price for an item." This embodiment enables bid and offer indicators to be displayed on the trader's screen in terms of a value that is a derivative of price. Page 14, starting at line 13, of Appellants' specification describes

examples of values which may represent different qualitative measures for an item, such as cost for a bond or implied interest rate for the bond, implied volatility of an item, and so on.

Appellants' independent Claim 90 relates to a method embodiment for "displaying a plurality of bid indicators" and "displaying a plurality of offer indicators" where each bid indicator and offer indicator is displayed at a location "along the first scaled axis of values corresponding to a value" associated with the bid or offer. The method includes displaying an "order token associated with at least one preset order parameter" and in response to a user initiated command, "moving the order token to a location associated with a desired value along the first scaled axis of values." Figure 3a of Appellants' specification, and corresponding text starting on page 15, line 22, illustrates an example of order tokens (e.g., offer token 324 and bid token 320) that are associated with at least one preset order parameter. This illustration shows an example in which the order tokens are preset for either a buy or sell and quantity. The "order token" can then be moved to location associated with a desired value along the "scaled axis of values."

VI. Grounds of Rejection to be Reviewed on Appeal

(1) Whether Claims 1 and 86 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott").

(2) Whether Claims 2 and 67 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(3) Whether Claim 4 is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(4) Whether Claims 10, 61, and 62 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(5) Whether Claim 11 is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(6) Whether Claims 12 and 16 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(7) Whether Claim 18 is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(8) Whether Claims 63, 64, and 70 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(9) Whether Claim **65** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(10) Whether Claim **66** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(11) Whether Claim **68** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(12) Whether Claim **69** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(13) Whether Claims **77** and **78** are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(14) Whether Claims **79**, **80**, **81**, and **82** are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(15) Whether Claims **83** and **84** are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(16) Whether Claim **85** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(17) Whether Claims **87**, **88** and **89** are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(18) Whether Claim **90** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(19) Whether Claim **91** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(20) Whether Claims **92, 93,** and **98** are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(21) Whether Claim **94** and **95** are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(22) Whether Claim and **96** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(23) Whether Claim **97** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

(24) Whether Claim **28** is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott and further in view of U.S. Patent No. 6,188,403 ("Sacerdoti").

(25) Whether Claims 71, 72, 73, 74, 75, 76 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott and further in view of U.S. 6,161,099 ("Harrington").

VII. Argument

The Examiner rejected Claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98 in the final Office Action as obvious under 35 U.S.C. § 103(a). Applicants' respectfully assert that the Examiner's rejection does not meet the statutory standard required for an obviousness rejection. Reasons supporting the separate patentability for each of the above-identified issues are set forth below.

A. Statutory Standard

The statutory standard comes from 35 U.S.C. § 103(a), which provides that an invention is not patentable:

> if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

The test for obviousness is well known. The obviousness inquiry requires: (1) an inquiry into the scope and content of the prior art; (2) identification of the differences between the prior art and the claimed invention; (3) determination of the level of ordinary skill in the art at the time of the invention; and (4) consideration of objective evidence of secondary considerations. Graham v. John Deere Co., 383 U.S. 1, 17 (1966). The PTO has the burden of establishing a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

Relating to the first inquiry, when obviousness is based on the teachings of multiple prior art references, there must be a "suggestion, teaching, or motivation" that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed. Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1359-60 (Fed.Cir.1999); Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573 (Fed.Cir.1996). In other words, the "examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in

the manner claimed." In re Rouffet, 149 F.3d 1350, 1357. The reason, suggestion, or motivation to combine prior art references may be found explicitly or implicitly: (1) in the prior art references themselves; (2) in the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest or importance in the field; or (3) from the nature of the problem to be solved, "leading inventors to look to references relating to possible solutions to that problem." Ruiz v. A.B. Chance Co., 234 F.3d 654, 665 (Fed.Cir.2000) (quoting Pro-Mold, 75 F.3d at 1572).

The showing of a motivation to combine "must be clear and particular, and it must be supported by actual evidence." Teleflex v. Ficosa North America, 299 F.3d 1313, 1334 (Fed. Cir. 2002). Broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." Brown & Williamson Tobacco v. Philip Morris, 229 F.3d 1120, 1125 (Fed. Cir. 2000). The use of hindsight is impermissible. "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999); see also Ruiz v. A.B. Chance Co., 234 F.3d 654, 665 (Fed. Cir. 2000). This is because "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability-the essence of hindsight." In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999).

Section § 103(a) states that obviousness is to be assessed relative to "the art to which the subject matter pertains." Analogous prior art is that art to which one seeking a solution to a particular problem, or attempting to achieve a particular result, would look for the purpose of finding the answer to that problem, or suggestions as to the attainment of that result. The test for analogous art has been said to be "similarity of elements, problems and purposes." Universal Elec. Co. v. A.O. Smith Corp., 643 F.2d 1240, 1246, 209 U.S.P.Q. (BNA) 1077, 1081 (6th Cir. 1981); Skega Aktiebolag v. B. F. Goodrich Co., 420 F.2d 1358, 1359, 164 U.S.P.Q. (BNA) 333, 334 (6th Cir. 1970).

Relating to the second inquiry, the focus is not merely on the differences between the claimed invention and the prior art, but on the claimed "subject matter as a whole." Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1565 (Fed. Cir. 1987). A patent claim is obvious, and thus invalid, when the differences between the claimed invention and the

prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103; see also Graham v. John Deere Co., 383 U.S. 1, 13, 86 S.Ct. 684, 692, 15 L.Ed.2d 545 (1966); In re Dembiczak, 175 F.3d 994, 998 (Fed.Cir.1999). Whether or not changes from the prior art are "minor," they must be evaluated in terms of the whole invention including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the patentee's method and device. Northern Telecom Inc. v. Datapoint Corp., 908 F.2d 931, 935 (Fed. Cir. 1990).

Relating to the third inquiry, a person of ordinary skill in the art is presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patent and often expensive, systematic research or obviousness. Standard Oil Co. v. American Cyanamid, 774 F.2d 448, 454 (Fed. Cir. 1985). "[T]he level of skill in the art is a prism or lens through which a judge or jury view the prior art and the claimed invention. This reference point prevents deciders from using their own insight or, worse yet, hindsight, to gauge obviousness. Rarely, however, will the skill in the art component operate to supply missing knowledge or prior art to reach an obviousness judgment. Skill in the art does not act as a bridge over gaps in substantive presentation of an obviousness case, but instead supplies the primary guarantee of objectivity in the process." Al-Site Corp. v. VSI Intern., Inc. 174 F.3d 1308, 1324 (Fed. Cir. 1999).

B. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott")

1. Claims 1 and 86

a. The Silverman reference

Silverman describes a particular type of an anonymous matching system for trading instruments in which bids are automatically matched against offers for given trading instruments. (Col. 3, lines 18-20). Silverman addresses certain problems with respect to prior art matching systems: (1) None of these prior art matching systems implement the use of credit controls to determine the quantity of a permissible match at the lowest common credit limit and the best bid/ask price for the largest available quantity to automatically complete a match at trade in which real time prices are subject to real time credit; (2) No prior art matching systems are known in which an anonymous "more quantity" bid may be

employed for additional orders at the same price; (3) No prior art matching systems are known in which directed messages are employed between the keystations in the system and the central system to update the local entry order data bases and broadcast messages are employed to update the keystation book with is a restricted subset of the host or central system book; and (4) None of these prior art systems employ summary books at the local keystations as subsets of the host or central system book. (Col. 1, line 64 – Col. 2, line 16).

To address these problems, Silverman describes a computerized exchange in which its central role is to identify a buyer and a seller who are willing to trade with one another based on specified criteria, such as price, quantity and credit, with real time prices preferably being subject to real time credit. Thus, credit controls are used to determine the quantity of permissible match at the lowest common credit limit and the best bid/ask price for the largest available quantity to automatically complete a matched trade.

To support this computerized exchange, the matching system requires various support functions – one of which is the maintenance of summary market information on the participant's workstation or keystation displays at the various client sites. While Silverman's main focus and teaching is on the matching system, itself, Silverman makes limited, general passing references on what to actually display to the trader. To the extent Silverman teaches what to display to the trader, Silverman states:

> Preferably in the system of the present invention, at all times the system will display the best inside price for every instrument traded on the system. The best inside price is preferably defined to be the highest value bid and the lowest value offer in the system. Preferably the prices are displayed together with the quantity bid or offered at the specified price so that the trader at the keystation can observe the market activity. (Col. 6, lines 47 – 60).

Silverman further describes that by "observing the market activity, the trader can decide whether to enter a bid, or enter an offer into the market in an effort to complete a matching transaction." (Col. 6, lines 61-63). The trader interacts by submitting bid, offer, hit, or take transactions. (Col. 6, line 66 – Col. 7, line 2). Silverman describes order entry as:

> The order entry function is preferably *conventionally* achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool. (Col. 7, lines 2-5). [Emphasis added].

The central system validates the transaction request, processes the bid, offer, hit, or take according to the rules of the market, and attempts to find matches between this new entry and the other bids and offers posted in the system book, subject to gross counterparty credit limits between the potential counterparties to a potential matching transaction. If a match is found, and satisfies all criteria, the participants to the trade are informed, all databases and the trader screens are updated as to the quantities traded and the quantities remaining. (Col. 7, lines 5-20).

Silverman uses FIG. 4, which is "an illustrative diagram of a logical model of a book market...at the central system," and FIG. 5, which is "an illustrative diagram similar to FIG. 4 illustrating a typical keystation book as a subset of the central system book illustrated in FIG. 4." (Col. 5, lines 49-55). A book, as defined by Silverman, is "the repository for bids/offer information of a particular trading instrument." (Col. 12, lines 33–48). The boxes in FIGs. 4 and 5 illustrate database entries that are used to generate central and local keystation book databases, respectively. (Col. 9, line 46 et seq). FIGs. 13 – 18 are similar diagrams to FIGs. 4 and 5 illustrating various operational situations that might occur as a result of the matching system. The logical models are not taught or suggested as graphical user interfaces, but rather show logical models of a book database at the central system and of a book database at a keystation, which is a subset of the central station's book database; the data content of these logical models may be used in a trading display (e.g., the best prices and quantities). (Col. 4, line 66-Col. 5, line 4).

c. The Schott Reference

Schott describes altering data by manipulation of representational dynamic graphs. Specifically, the method and apparatus of Schott provide for using dynamic graphs wherein the computer user is able to manipulate the graph shape directly, which in turn not only modifies the graph, but also alters the corresponding and underlying tabularized data, as well as any associated numeric representations of the data that may be presented to the computer user. (Col. 11, lines 31-67). Figs. 19a and 26a in Schott illustrate two separate examples cited by the Examiner. Fig. 19a is an illustration of cells of a spreadsheet having data and a dynamic input bar graph, where the bar graph corresponds to the data of the spreadsheet. Fig. 26a is an illustration of cells of a spreadsheet having data and a dynamic input pie graph, where the pie graph corresponds to the data of the spreadsheet.

Schott addresses the problems associated with computer keyboard entry of data, and provides a way for users to alter their data and modify the interrelationship between associated data by intuitive manipulation of representational graphs – instead of changing the graph shape by keyboard data entry (e.g., such as typing data into a spreadsheet causing the graph shape to change). (Col. 1, line 44 to Col. 2, line 3).

d. The Combination Lacks the Limitations

While the focus is not merely of the differences between the claimed invention and the prior art, but on the claimed subject matter "as a whole," it may be useful to view the differences to place the obviousness analysis into proper perspective. It is also useful to note that throughout the rejection of the presently pending claims, the Examiner has used Silverman and the logical models shown in the figures as teaching a "method of displaying bid/offer information" (which is described more in the next section below). Appellants' respectfully submit that Silverman does not teach how or what to display, outside of a few passing references in the specification – most of which is shown in the inset quote above referring to Col. 6, lines 47 – 60 in Silverman. Silverman does not describe or teach the logical models as graphical user interfaces, and it is impermissible to manufacture Silverman to include those teachings. However, even to go as far as to assume that Silverman teaches what the Examiner suggests, taken together, the Silverman/Schott references still lack the limitations set forth in Claim 1.

First, they do not teach "displaying a plurality of bid indicators" and "displaying a plurality of ask indicators" at locations along a "first scaled axis of values" corresponding to a value associated with the bid or offer. While it is impermissible for the Examiner to use Silverman's logical models as graphical user interfaces, because Silverman does not make such teaching, the figures themselves lack a "scaled axis of values." In other words, even if the logical models were taught as graphical user interfaces, they still lack "a scaled axis of values," because the only prices shown are those that correspond to entries made in the market; there is no scaling to show prices where no orders exists. So, if another entry was added at a price that is different from any other existing entry, then the existing entries must be moved to accommodate the new entry (e.g., Fig. 14 of Silverman illustrates one such example). Additionally, as a result of not showing a "scaled axis of values" Silverman cannot effectively support the limitation of moving an "order icon" to "a value" along the "scaled

axis of values," because this would drastically inhibit order placement – orders could only be placed where entries are currently made in the market – and is contrary to Appellants' invention of "facilitating the placement of an order" and the "scaled axis" limitation. Schott shows an ordinary axis as used in a chart (e.g., Fig. 19A of Schott shows an axis), but not for use in displaying bids and offers in an electronic trading system.

Second, the Silverman/Schott references do not show "displaying an order icon associated with an order by the user for a particular quantity of the item...." Indeed, the keystation book of Silverman contains only aggregate order quantity (mixing orders by the user with orders in the market), and as a result, Silverman does not teach displaying an order icon associated with an order by the particular user. (E.g., at Col. 10, lines 35-39, Silverman states: "the keystation book is a summary book which contains accumulated summaries of bids at the same price and offers at the same price."). Because Silverman fails to teach the display of an "order icon," then it also fails to teach "an order by the user for a particular quantity of the item," such as called for in Appellants' Claim 1. Schott also fails to teach any of these limitations.

Third, the Silverman/Schott references do not show "in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values." Appellants submit that Silverman does not teach how orders are placed through a graphical user interface, except for the "order entry function is preferably conventionally achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool." (Col. 7, lines 2-5). Silverman does not teach the Appellants' rather particular way of choosing a value for "an order by the user." Neither reference teaches an "order icon" nor neither reference teaches the ability of "moving the order icon" to a location associated with a value along a "scaled axis of values."

Thus, even assuming Silverman teaches what the Examiner suggests, the combination of the Silverman/Schott references is missing many limitations found in Appellants' Claim 1. The same reasoning also applies to Appellants' independent Claim 86, which mirrors the limitations found in Claim 1. Because every limitation of Claim 1 (and Claim 86) is not found in the prior art, there cannot be an obvious showing under 35 U.S.C. § 103(a).

e. No Suggestion to Combine or Modify

Not only do the Silverman/Schott references lack many of the limitations of Appellants' Claim 1 and Claim 86, there is no desirability or suggestion that would have led a person of ordinary skill in the art to combine or modify the references in the manner claimed. Recall that Claim 1 is directed towards a method for "facilitating the placement of an order for an item and for displaying transactional information to a user...." According to Claim 1, an "order icon" can be moved to a location associated with a value along the scaled axis to facilitate placement of an order. Claim 1 taken as a whole provides an advantage over the prior art because it gives the user the ability to move an "order icon" representing his or her own order to a different value in a display of market bids and offers positioned along a "scaled axis of values." The same applies for Claim 86.

The focus of Silverman was a matching system. Very little of Silverman, with the exception of the quoted segments above, dealt with what to display and order placement; and with respect to order placement, even that exception stated the preferred use of *conventional* means. The limitations found in Appellants' Claim 1 including its use of a moveable "order icon" is not conventional. Even the Examiner stated in the Office Action of 9/15/04 "Silverman does not specifically disclose the newly claimed limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis." Appellants respectfully submit that Silverman would not lead one of *ordinary skill*, at the time of invention, to invent a whole new way of integrating the display of bids/offers and order facilitation, let alone lead one of ordinary skill to Schott to do so. Schott teaches how to change data in a spreadsheet by manipulating a related chart; Appellants' seriously question whether one of ordinary skill in the art would even look to Schott as the reference does not logically commend itself to the Appellants' particular problem or purpose. Nonetheless, giving the Examiner the benefit of the doubt in this instance, even if one of ordinary skill would have Schott in his or her view at the time of Appellant's invention, he or she would not come to the Appellants' same conclusion, because the prior art, including Silverman, did not encourage such a departure from the conventional way of order entry. So, the person of ordinary skill would not be motivated by the combination of Silverman and Schott to make the combination and modifications suggested by the Examiner.

In making the rejection, the Examiner stated the following motivation to combine:

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of displaying bid/offer information of Silverman to include the manipulation of information along a scaled axis disclosed by Schott because this would have allowed dynamic creation of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification of underlying order data. Such capacity would allow users to readily perceive the status of a market and participate in the market efficiently through quick manipulation of their particular order information.

The Examiner has stated that this motivation is "independently derived;" however, this independent derivation is completely unfair and wrong, as it is not supported by any evidence (See, e.g., In re Zurko, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); Ahlert, 424 F.2d at 1092, 165 USPQ at 421.), and in doing so has gone outside the boundaries of the obviousness standard. No person of ordinary skill at the time of invention, looking to the prior art including Silverman/Schott (again, even assuming that Schott is analogous and one of ordinary skill would even look to Schott), would share this independently derived motivation unless he or she used Appellants' innovative invention as a blueprint. It would require not only hindsight, but also innovation on the part of the person of ordinary skill, which is entirely impermissible. Appellants' respectfully submit that nothing in those references teach such a combination and a modification (recall from above that combining the references is not enough because they lack many of the same limitations and the references would still require drastic modification). Just the opposite, the natural flow from Silverman would be to leave the order placement alone and keep it conventional. Indeed, trading screens have been around for decades before Appellants' invention, yet the Examiner can still find no reference that remotely suggests the desire or gives the user some ability to move an "order icon" representing his or her own order to a different value in a display of market bids and offers positioned along a "scaled axis of values."

One of ordinary skill would also be taught away from the modifications suggested by the Examiner upon a more detailed reading of Silverman. Silverman states "...at *all times* the system will display the best inside price for *every* instrument traded on the system...." [Emphasis added]. While little instruction was given by Silverman on the actual display of market information, it appears the emphasis was on conveying information (especially the

inside price – best bid/offer) in a relatively compact manner so that inside prices for every instrument can be viewed by the user – a characteristic often found in traditional style trading displays. Even assuming Silverman teaches what the Examiner suggests, the logical models shown in the figures of Silverman would simply take up too much screen space to display information for *every* instrument as one logical model represents a book for only one instrument. Also, the logical models show no order entry capability, let alone, show a way that would give a user control over an "order icon" representing the user's own order; instead the logical model at the keystation shows only consolidated order summaries with no attempt to distinguish between the user's own order from other orders in the market.

Additionally, without more, the Examiner's "independently derived" motivation is not enough. Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination or modification. The Examiner already noted that Silverman does not show displaying bid and offer indicators along a scaled axis, or in response to a user initiated command, moving an icon associated with an order on the axis. Not only did Silverman not show those limitations, but there was no suggestion or desire to modify Silverman to have them. This proposed modification would, in fact, change the principle operation of Silverman because the keystation book in Fig. 5, for example, is only a copy of the host book in Fig. 4, and the keystation book gets updated periodically over a network only by the host book. In fact, the keystation book illustrated in Silverman's Fig. 5 shows only the aggregate primary quantities at each price rather than individual orders. (e.g., a primary quantity of "9" at "1.39.19" in Fig. 5 compared to two separate quantity entries of "6" and "3" at "139.19" in Fig. 4). Thus, because the user only sees aggregate quantities (this is even making the impermissible assumption that these logical models are even taught as displays), there would be no way for a user to modify individual orders using the keystation book. In other words, Silverman could not support the Examiner's proposal. Therefore, a user could not move the user's order as called for by Applicants' Claim 1. According to MPEP 2143.01, the proposed modification cannot change the principle operation of a reference, otherwise the teachings of the references are not sufficient to render the claims obvious. In re Ratti, 270 F.2d 810. Here, the Examiner's proposed modification changes the principle operation of Silverman, and therefore, for at least this reason, the proposed modification cannot render Claim 1 obvious.

2. Claims 2 and 67

Claims 2 and 67 are dependent claims that depend from independent Claim 1. Claims 2 and 67 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 2 and 67. Furthermore, Claims 2 and 67 are separately patentable and do not stand or fall with Claim 1.

With respect to Claim 1, Appellants have already stated that an "order icon" representing a user's own order that is moveable to a different value along "a scaled axis of values," in which bids and offers are also displayed in reference to, is not shown in the prior art. Reading Silverman, one of ordinary skill would be led down the path of conventional order entry – nothing in Silverman would lead one of ordinary skill to look at Schott and go down the path taken by the Appellants.

Claim 2 further calls for an "order icon" that is adjustable by the user to reflect the quantity of the order. Not only can the order icon be moved to a value along the scaled axis, but according to Claim 2, it can also be adjusted to reflect another order parameter – namely, "quantity of the order." Claim 67 calls for associating the size of the order icon with the quantity of the order.

In making the rejection, however, the Examiner states that "It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the user manipulation of underlying data disclosed by Schott in the invention of Silverman because this would have allowed a user to understand the relative size of the orders through greater or lesser visual impact based on the user controlled size." (Office Action of 4/21/05, on Page 4). Appellants' submit, however, that there is no evidence to indicate this kind of motivation or suggestion *in the prior art*, without hindsight or innovation on the part of the person of ordinary skill. In other words, looking to the teachings of Silverman/Schott, one of ordinary skill would not be motivated to use "size" of an order icon to indicate quantity for a user's own order. Silverman does not teach or suggest using "size" of an order icon to indicate quantity for a user's own order. Even the entries in the logical models of Silverman are all the same size. Besides, as previously stated, Silverman teaches conventional order entry and does not even teach an "order icon." While Schott teaches resizing some graphical elements like a pie chart, there is no motivation or desirability in the prior art to apply resizing to "an order icon" in a graphical user interface

used for trading. Thus, without any suggestion or motivation in the prior art, one of ordinary skill - one who follows conventional logic - would not use the teachings in Schott and Silverman to develop the invention called for by Claim 2.

3. Claim 4

Claim 4 is a dependent claim that depends from independent Claim 1. Claim 4 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 4. Additionally, Claim 4 is separately patentable and does not stand or fall with Claim 1, because in addition to the limitations found in Claim 1, Claim 4 calls for "receiving a request for an order responsive to a user action specifying a quantity of the item and value for the order."

4. Claims 10, 61, and 62

Claims 10, 61, and 62 are dependent claims that depend from independent Claim 1. Claims 10, 61, and 62 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 10, 61, and 62. Furthermore, Claims 10, 61, and 62 are separately patentable and do not stand or fall together.

Claim 10 calls for displaying the "order icon" with a "first visual characteristic" and displaying the bid and offer indicators corresponding to orders placed by "other users with a second visual characteristic." Claim 61 calls for "visually distinguishing" bid indicators from offer indicators. Claim 62 calls for "visually distinguishing" the order icon from the plurality of bid and offer indicators.

With respect to these Claims, contrary to the Examiner's suggestion, it is not old and well known to distinguish an "order icon associated with an order by the user" from bids and offers resting in the market. If it was so old and well known and given that trading screens have been around for quite some time before Appellants' invention, then the Examiner should be able to provide an instance where a moveable order icon representing a user's order is distinguished from bids and offers resting in the market (called for by Appellants' Claim 10 and 62). The Examiner failed to do that. The Examiner may not merely rely on an a perceived notion that common knowledge and common sense would

motivate one of ordinary skill in the art to combine references in a manner rendering the invention obvious without providing nonconclusory articulated reasoning to justify the alleged motivation. In re Sang Su Lee, 277 F.3d 1338, 1342-43 (Fed. Cir. 2002).

5. Claim 11

Claim 11 is a dependent claim that depends from independent Claim 1. Claim 11 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 11. Furthermore, Claim 11 is separately patentable and does not stand or fall with Claim 1.

Claim 11 calls for displaying each of the bid and offer indicators having "an edge which is angled toward the first scaled axis of values."

Contrary to the Examiner's suggestion, it would not have been obvious to display each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values, because Silverman does not teach a "scaled axis of values." Thus, even if the logical models were to be used as a graphical user interface, each entry shows it's own price – the entries are not located relative to a "scaled axis of values" and therefore having an edge would do those entries no good as they would not indicate any particular value.

6. Claims 12 and 16

Claims 12 and 16 are dependent claims that depend from independent Claim 1. Claims 12 and 16 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 12 and 16. Furthermore, Claims 12 and 16 are separately patentable and do not stand or fall together.

Claims 12 and 16 call for receiving market information representing a new order to buy or sell a quantity of the item, generating a bid or offer indicator whose "size" corresponds to the quantity of the item bid or offered for, and placing the indicator at a location along a "scaled axis of values."

When looking at the prior art as a whole, there is nothing to suggest in response to the received market information, "generating a bid indicator whose size corresponds to the quantity of the item bid for" (Claim 12) and "generating an offer indicator whose size

corresponds to the quantity of the item for which the offer is made." Particularly, Claims 12 and 16 call for the placing of bid/offer indicators whose "size" corresponds to the quantity of the item bid for. The Examiner states "These Claims also recite the processes of receiving orders and generating icons for new bids or offers, which is taught by Silverman at Figs. 4, 14, and 16." The Appellants submit that this line of reasoning is not "clear and particular," because it does not provide the motivation to make the modification set forth in the clam. As previously stated, the logical models are not taught as displays in Silverman – but are used for illustrating the logical operation of the system. Nevertheless, the logical models of Silverman do not show having bid/offer indicators whose "size" corresponds to the quantity. Indeed, the entries of the logical models in Silverman are all the same size. While Schott teaches different elements in the pie chart having different sizes for each element, there is no motivation or desirability in the prior art to apply such teaching to bids and offers. Applying this teaching to Silverman would result in using even more screen space, which would go against the teaching of Silverman to display "at *all times* the system will display the best inside price for *every* instrument traded on the system." Thus, without any suggestion or motivation in the prior art, one of ordinary skill would not use the teachings in Schott and Silverman to develop the invention called for by Claims 12 and 16.

7. Claim 18

Claim 18 is a dependent claim that depends from independent Claim 1. Claim 18 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 18. Furthermore, Claim 18 is separately patentable and does not stand or fall together.

Claim 18 calls for "displaying a historical chart representing values of the time responsive to time and value." The third axis, representing value, is not required to be the same as the first axis.

The Examiner suggests that the additional limitation of a historical chart is old and well-known in trading markets and the presentation of such historical information would have been obvious because this would have allowed traders to gain understanding of market trends. Appellants contend that the focus is to be on the claim "as a whole." Appellants submit that trading charts have been around for quite some time prior to Appellants' invention, and yet even after all of that time, the Examiner cannot point to any evidence that

teaches or suggests the combination of a trading chart with a trading screen that is integrated with order placement. Historically, trading charts were separate and distinct from an order placement screen; the two were not so integrated. The prior art, including Silverman and Schott, taken together, do not suggest such a combination.

8. Claims 63, 64, and 70

Claims 63, 64, and 70 are dependent claims that ultimately depend from independent Claim 1. Claims 63, 64, and 70 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 63, 64, and 70. Furthermore, Claims 63, 64, and 70 are separately patentable and do not stand or fall together.

Claim 63 calls for "...displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values." Claim 64 further limits Claim 63 by stating "...the location at which the marker is displayed is updated dynamically." Claim 70 calls for the marker to be a "line."

With respect to Claims 63 and 70, the Examiner states that it would have been obvious to "modify Silverman with a marker denoting a value of interest because this would draw a trader's attention to a need to perform some action." However, the Appellants respectfully submit that this reasoning is unsupported by Silverman, and again such reasoning is using hindsight and innovation on the part of a person of ordinary skill. As previously stated above, Silverman does not show a "scaled axis" and therefore such a marker would be rather useless.

Additionally, Claim 64 calls for a marker that is updated "dynamically." Appellants' specification on page 18, discloses examples of a marker, including a marker that is updated dynamically. For example, the marker 336, in Fig. 3a of Appellants' specification, is representative of a value quantifying metric specified by the trader. The value quantifying metric can be an algorithm or formula. Neither of the references teaches a dynamically updated marker.

9. Claim 65

Claim 65 is a dependent claim that depends from independent Claim 1. Claim 65 is patentable because all the reasons showing the non-obviousness of independent Claim 1

apply to Claim 65. Furthermore, Claim 65 is separately patentable and does not stand or fall together with Claim 1.

Claim 65 states: "...wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location."

The Examiner states that Schott discloses selecting and dragging of an order icon at Col. 21, lines 1-30. Contrary to what the Examiner asserts, Schott does not disclose "selecting and dragging of an order icon." Rather, Schott teaches the creation of dynamic input line graphs, which has nothing to do with orders or order icons. Once again, the Appellants submit that it is impermissible to use hindsight without providing evidence supported by the prior art. As stated before, there is nothing in the prior art to suggest this motivation, and indeed, Silverman prefers *conventional* order entry. Selecting and dragging an order icon is not conventional or if it would be, then the Examiner could locate a more on point reference. Schott does not overcome this deficiency. For example, while Schott teaches manipulation of a graph, there is no motivation or desirability in the prior art that would lead one of ordinary skill to combine and modify the prior art teachings in the manner claimed.

10. Claim 66

Claim 66 is a dependent claim that depends from independent Claim 1. Claim 66 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 66. Furthermore, Claim 66 is separately patentable and does not stand or fall together with Claim 1.

Claim 66 calls for "modifying the order icon based on a transaction."

Contrary to the Examiner's assertion, Silverman does not show an "order icon associated with an order by the user," and therefore cannot show "modifying" this order icon based on a transaction. Indeed, neither Silverman nor Schott teach or suggest this limitation and one of ordinary skill would not have modified them to read on this limitation.

11. Claim 68

Claim 68 is a dependent claim that depends from independent Claim 1. Claim 68 is patentable because all the reasons showing the non-obviousness of independent Claim 1

apply to Claim 68. Furthermore, Claim 68 is separately patentable and does not stand or fall together with Claim 1.

Claim 68 calls for the values on the "first scaled axis of values" to represent "price."

Silverman does not show a "scaled axis of values," but rather logical models are used to illustrate the operation of a matching system. Furthermore, the only values shown in Silverman are the values at which entries have been made; the logical models do not show "a scaled axis" and cannot show the further limitation that the axis represents "price."

12. Claim 69

Claim 69 is a dependent claim that depends from independent Claim 1. Claim 69 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 69, with the specific application to "commodities."

13. Claim 77 and 78

Claims 77 and 78 are dependent claims that depend from independent Claim 1. Claims 77 and 78 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 77 and 78. Claim 77 calls for the further limitation of displaying the quantity of the item associated with the bid and offer indicator and Claim 78 calls for displaying the quantity of the order placed by the user.

14. Claims 79, 80, 81, 82

Claims 79, 80, 81, and 82 are dependent claims that depend from independent Claim 1. Claims 79, 80, 81, and 82 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 79, 80, 81, and 82. Furthermore, Claims 79, 80, 81, and 82 are separately patentable and do not stand or fall together.

On page 17, starting at line 5 of Appellants' specification, contextual data is described by stating, "Contextual data comprises historical trading data of the item, historical or current trading data of other items, historical or current trading data of an average of items." Contrary to the Examiner's assertion (the Examiner states Silverman discloses contextual data at Fig. 5, "Display Depth of 3"), contextual data is separate from bids/offers, because on page 17, at line 9, the Appellants' state: "Viewing contextual data *along with* the

outstanding offers and bids allows the trader to better anticipate the market" [emphasis added]. Silverman and Schott do not show displaying contextual data *along with* the bids/offers. Additionally, it is not well known to display contextual data along with the bids/offers in a graphical user interface for order placement; and the prior art (outside of Appellants' specification) does not suggest the desirability of the modification. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266.

15. Claim 83 and 84

Claims 83 and 84 are dependent claims that depend from independent Claim 1. Claims 83 and 84 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 83 and 84. Furthermore, Claims 83 and 84 are separately patentable and do not stand or fall together.

Claim 83 calls for a scaled axis that is "graduated in intervals such that each interval represents a particular value." Claim 84 calls for "displaying the values along the first scaled axis of values."

The Examiner asserts that it would have been obvious to modify Silverman to have a "graduated displayed axis." However, Silverman does not teach or suggest graphical user interfaces, let alone the desirability of using a graduated axis. As previously stated, there must be some indication in the prior art that would lead one of ordinary skill to modify the Silverman reference, and there is none for similar reasons as pointed out with respect to Claim 1. Additionally, even assuming that Silverman teaches what the Examiner suggests, without a scaled axis, Silverman's logical models have to include a price for each entry, otherwise there would be no way to view the value of the entries.

Unlike Silverman, Claim 1 has a scaled axis, so the act of displaying the values along the axis is not necessary because a user can determine the relative value between each bid/offer against a "scaled axis." Claim 84 further limits Claim 1 because it calls for "displaying the values" on the graphical user interface.

16. Claim 85

Claim 85 is a dependent claim that depends from independent Claim 1. Claim 85 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 85. Furthermore, Claim 85 is separately patentable and does not stand or fall together with Claim 1.

Claim 85 calls for graphically representing the bid and offer indicators to the user as "icons."

Contrary to the Examiner's assertion, the logical models of Silverman are not intended to be used as graphical user interfaces – and one of ordinary skill in the art, upon reading Silverman, would not use them as such. Silverman sets forth in the specification some passing references on what to display to the trader – the reference does not teach or suggest using the logical models as a graphical user interface to the user. As a result, Silverman does not teach displaying the bid and offer indicators graphically as icons.

17. Claim 87, 88, and 89

The Examiner rejects independent Claim 87 over Silverman in view of Schott and in doing so states "see the discussion of Claim 1 and Silverman discloses a computer system running software at Figs. 1 and 2 and related text." Yet, Claim 87 calls for values that "represent a derivative of price for the item." Silverman does not teach or suggest a "derivative of price" and the Examiner does not address this limitation in the rejection. Repeatedly, the Appellants' requested the Examiner to correct the rejection, because Claim 87 has similar limitations to Claims 71-73, which was rejected in view of different art. However, because the rejection still stands, the Appellants will address this rejection here.

Claim 88, which is a dependent claim that depends from Claim 72, states: "...the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item." Claim 89, which is a dependent claim that depends from Claim 87, states: "wherein the derivative of price is customizable."

With respect to Claims 87, 88, and 89, Silverman does not teach a "derivative of price;" indeed, Silverman states "Preferably in the system of the present invention, at all times the system will display the best inside *price* for every instrument traded on the system....Preferably the *prices* are displayed together with the quantity bid or offered at the

specified price so that the trader at the keystation can observe the market activity." (Col. 6, lines 47 – 60). As such, there is nothing in Silverman that would provide motivation or the desirability of displaying bids/offers along "a scaled axis of values such that the values represent a derivative of price."

Claims 87, 88, and 89 have similar limitations as those found in Claims 71-73, which ultimately depend from Claim 1. The Examiner rejected Claims 71-73 in view of Harrington (this rejection is addressed separately). In rejecting 87, the Examiner did not use the Harrington reference. Even if the Examiner applied Harrington in rejection of Claim 87, there still is no teaching or suggestion of displaying bids/offers along "a scaled axis of values such that the values represent a derivative of price." Please see the response to the rejection of Claims 71-76 below.

18. Claim 90

Independent Claim 90 contains similar limitations to that of Claim 1, and therefore, the same reasoning for patentability applies. However, Claim 90 calls for "displaying an order token associated with at least one preset order parameter; and in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values." As previously described, Figure 3a of Appellants' specification illustrates an example of an order token (e.g., offer token 324 and bid token 320). In the example of Figure 3a, the order tokens 320, 324 include at least two preset order parameters (e.g., whether it is a buy/sell and quantity). This particular embodiment, allows a trader to start the order entry process by selecting a token associated with at least one preset order parameter and move it to a value along the "scaled axis of values."

a. The Combination Lacks the Limitations

The Silverman/Schott references do not show "an order token" as called for and used by Appellants' Claim 90. Again, Silverman does not elaborate on how orders are placed through a graphical user interface (as previously stated, Silverman does not even teach a graphical user interface), except for the "order entry function is preferably conventionally achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool." (Col. 7, lines 2-5). This description does not

teach this limitation. Schott does not show this limitation either.

Additionally, the Silverman/Schott references do not show "in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values." So, neither reference shows an "order token" and neither reference describes the ability of "moving the order token" to a location associated with a desired value along the first scaled axis of values.

b. No Suggestion to Combine or Modify

Not only do the Silverman/Schott references lack the limitations of Claim 90, there is no suggestion to combine or modify them such that would have led a person of ordinary skill in the art to combine the references in the manner claimed. Claim 90 taken as a whole provides an advantage over the prior art because it gives the user the ability to move an "order token" to a desired value in a display of market bids and offers positioned along a scaled axis of values.

As previously stated, Silverman preferred conventional order entry and would not have led a person of ordinary skill to invent the Appellants' "order token." The Examiner did not cite any new reasons for unpatentability of Claim 90, which calls for "an order token." Schott does not teach or suggest this limitation either.

19. <u>Claim 91</u>

Claim 91 is a dependent claim that depends from independent Claim 90. Claim 91 is patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to Claim 91. Furthermore, Claim 91 is separately patentable and does not stand or fall together with Claim 90.

Claim 91 states: "...wherein the user initiated command comprises dragging the order token to the location."

The Examiner states that Schott discloses selecting and dragging of an order token at Col. 21, lines 1-30. Contrary to what the Examiner asserts, Schott does not disclose "selecting and dragging of an order token." Rather, Schott teaches the creation of dynamic input line graphs, which has nothing to do with orders or order tokens. Once again, the Appellants submit that it is impermissible to use hindsight without providing evidence supported by the prior art. As stated before, there is nothing in the prior art to suggest this

motivation, and indeed, Silverman prefers conventional order entry. Selecting and dragging an order token is not conventional or if it would be, then the Examiner could locate a more on point reference. Schott does not overcome this deficiency. For example, while Schott teaches manipulation of a graph, there is no motivation or desirability in the prior art that would lead one of ordinary skill to combine and modify the prior art teachings in the manner claimed.

20. Claims 92, 93, and 98

Claims 92, 93, and 98 are dependent claims that depend from independent Claim 90. Claims 92, 93, and 98 are patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to these Claims. Furthermore, Claims 92, 93, and 98 are separately patentable and do not stand or fall together with Claim 90.

Claim 92 states: "...wherein the at least one preset order parameter comprises a quantity for an order to be sent." Claim 93 states: "...wherein the at least one preset order parameter comprises a bid type or an offer type." Claim 98 states: "...wherein the order token is associated with a plurality of preset order parameters."

In rejecting Claims 92 and 93, the Examiner simply states that "Silverman discloses quantities of bids and offers at Fig. 5." Appellants submit that bids and offers are not "order tokens." Silverman does not disclose "order tokens," and thus, it does not also disclose any specific preset order parameters such as a quantity, bid type, or offer type in association with an order token as claimed in Appellants 92, 93, and 98.

21. Claims 94 and 95

Claims 94 and 95 are dependent claims that depend from independent Claim 90. Claims 94 and 95 are patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to these Claims. Furthermore, Claims 94 and 95 are separately patentable and do not stand or fall together with Claim 90.

Claim 94 states "wherein the order tokens represent an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameters of the order token and a value equal to the desired value associated with the location the order token was moved to."

Claim 95 states "wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server."

In rejecting Claim 94, the Examiner states "This is read as the familiar limit order." Appellants submit that the invention covered by Claim 94 is not a "limit order." Rather the claim is directed to a particular way for setting order parameters; Claim 94 calls for displaying an "order token" that can be moved to a location associated with a desired value along the first scaled axis of values, and the order would have order parameters equal to the "at least one present order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to." The cited prior art shows no such ability to set order parameters.

Claim 95 further includes sending an order having parameters that are set in the manner of Claim 90.

22. Claim 96

Claim 96 is dependent claim that depends from dependent Claim 95. Claim 96 is patentable because all the reasons showing the non-obviousness of dependent Claim 95 apply to Claim 96. Furthermore, Claim 96 is separately patentable and does not stand or fall together with Claim 95.

Claim 96 states that "in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item."

Silverman does not teach that "in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item." The Examiner does not provide any particular details in the rejection, but the Appellants again submit that Silverman does not teach or suggest "order tokens" or "order icons."

23. Claim 97

Claim 97 is dependent claim that depends from independent Claim 90. Claim 97 is patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to Claim 97. Furthermore, Claim 97 is separately patentable and does not stand or fall together with Claim 90.

Claim 97 calls for an "order token" that is adjustable by the user to reflect the quantity of the order. Not only can the order token be moved to a value along the scaled axis, but according to Claim 97 it can also be adjusted to reflect another order parameter – namely, "quantity of the order."

Silverman prefers conventional order entry. Adjusting an order token representing an order by the user to reflect a quantity is not conventional and is not taught by the prior art. Without hindsight reasoning, the Examiner cannot point to any part of Silverman or Schott that would lead one of ordinary skill down the Examiner's path of motivation.

C. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott") and further in view of U.S. Patent No. 6,188,403 ("Sacerdoti")

24. Claim 28

a. Sacerdoti

Sacerdoti describes a 3-dimensional graphics generation and display application that provides a visual display of information retrieved from a database. Sacerdoti's system addresses the needs of those who want to exploit their databases by using generators for ease in making animated, multi-dimensional graphics displays for presenting data in an easy to understand visual format. (See, e.g., Col. 2 lines 0-50).

b. The Combination Lacks the Limitations

Claim 28 is a dependent claim that depends from independent Claim 1. Claim 28 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 28. Furthermore, Claim 28 is separately patentable and does not stand or fall together with Claim 1.

The limitations of Claim 28 include moving an "order token to a user specified location" with respect to a first scaled axis of values which corresponds to a desired value, "thereby enabling placing of the order in accordance with the desired value."

As explained above neither Silverman nor Schott, alone or in combination, discloses a method of moving order tokens. Sacerdoti fails to overcome this deficiency as well. Sacerdoti fails to disclose or suggest displaying order tokens, or enabling placing of the order

in accordance with the desired value based on the location of the order token. Thus, the limitations of Claim 28 are also not found in Sacerdoti.

c. No Suggestion to Combine or Modify

The Applicants also disagree with the Examiner that Sacerdoti includes a motivation to combine the reference based on, what Examiner refers to as "common subject matter of trading." The Appellants respectfully submit that there is no motivation or desirability in the prior art to make the combination and modification suggested by the Examiner. Sacerdoti is missing the very same limitations that the other references are missing, and therefore it would require actual evidence providing a motivation or suggestion to make the combination and the modifications suggested by the Examiner to arrive at Appellants' Claim 28. Neither reference suggests the desirability or the motivation to make such a combination/modification. Thus, the Examiner failed to show proper suggestion or motivation to combine the reference teachings.

D. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott") and further in view of U.S. Patent No. 6,161,099 ("Harrington")

25. Claims 71, 72, 73, 74, 75, and 76

a. Harrington

Harrington discloses an apparatus and process for conducting auctions, specifically municipal bond auctions, over electronic networks. A user participates in the auction by accessing the web site via a conventional Internet browser and is led through a sequence of screens that perform the functions of verifying the user's identity, assisting the user in preparing a bid, verifying that the bid conforms to the rules of the auction, displaying to the user during the course of the auction selected bid information regarding bids received and informing the bidder how much time remains in the auction. Harrington addresses particular problems and needs of original issuer auctions of financial instruments, such as municipal bonds. (Col. 2, lines 49 et seq.).

b. The Combination Lacks the Limitations

The Examiner states "Silverman does not disclose a derivative of price as an interest rate. Harrington discloses interest rates as a derivate price mechanism for bonds at Col. 9, lines 40-55 and Fig. 15 ("[t]he user enters a coupon for each maturity and an aggregate purchase price, and at the Issuer's option, a price or yield for each maturity."). Appellants submit that Harrington (including the text above which was cited by the Examiner) would not lead one of ordinary skill to use a qualitative measure other than price to display bid and offer indicators as done by Claims 71, 72, 73, 74, 75, and 76. Thus, not only does Silverman not teach the limitations found in these claims, but Harrington also does not show such limitations.

c. No Suggestion to Combine or Modify

Moreover, there is no suggestion or motivation to modify the Silverman reference to include a "scaled axis" using a qualitative measure other than price to display bid and offer indicators as done by Claims 71, 72, 73, 74, 75, and 76. The Examiner's motivation is "this derivative would provide a valuation method for a bid which was more familiar in the bond auction art, i.e., true interest cost." This motivation does not rise to the level of "clear and particular" and it would not lead a person of ordinary skill to modify the references in the suggested manner. Appellants submit that there is nothing the Silverman and Harrington references that would suggest displaying bids and offers along a scaled axis that uses another qualitative measure other than price. Silverman does not suggest or teach graphical user interfaces, let along using a qualitative measure other than price, and Harrington does not suggest or teach displaying bids/offers using something other than price.

E. Conclusion

The rejection does not even set forth a *prima facie* case of obviousness because the references do not teach or suggest all of the elements of the present claims and, accordingly, there is no teaching, suggestion or motivation to make the proposed combination. For example, as stated above, Silverman does not even teach a graphical user interface as the Examiner suggests. With respect to order entry, Silverman, in fact, teaches away from the Examiner's proposed modifications, as Silverman teaches that the order entry function is

conventionally achieved. Additionally, Appellants seriously question whether Schott is analogous art. But, even assuming Silverman teaches what the Examiner suggests and that Schott is considered analogous art, the combination still lacks many of the claim elements. The other cited references also lack the same claim limitations. Also, as pointed out above, there is also no motivation or desirability to make the proposed combination and modifications required to make obvious Appellants' claims. To do so, would require impermissible hindsight and a great leap of innovation on the part of one of ordinary skill. Appellants respectfully submit that the outstanding rejection of the claims on obviousness grounds is in error and should be reversed.

VIII. Claims Appendix

1. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order icon associated with an order by the user for a particular quantity of the item; and

in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

2. The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.

4. The method of claim 1 further comprising:

receiving a request for an order responsive to a user action specifying a quantity of the item and value for the order.

10. The method of claim 1 further comprising:

displaying the order icon placed by the user with a first visual characteristic; and

displaying the bid and offer indicators corresponding to orders placed by other users with a second visual characteristic.

11. The method of claim 1 further comprising:

displaying each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values.

12. The method of claim 1 further comprising:

receiving market information representing a new order to buy a quantity of the item for a specified value;

in response to the received market information, generating a bid indicator whose size corresponds to the quantity of the item bid for; and

placing the bid indicator at a location along the first scaled axis of values corresponding to the specified value of the bid.

16. The method of claim 1 further comprising:

receiving market information representing a new order to sell a quantity of the item for a specified value;

in response to the received market information, generating an offer indicator whose size corresponds to the quantity of the item for which the offer is made; and

placing the offer indicator at a location along the first scaled axis of values corresponding to the specified value of the offer.

18. The method of claim 1 further comprising:

generating a second axis, perpendicular to the first scaled axis of values, representing time;

generating a third axis, perpendicular to the second axis, representing value; and

displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

28. The method of claim 1 further comprising:

displaying a plurality of order tokens having different values;

receiving a selection for an order token; and

moving the order token to a user specified location with respect to the first scaled axis of values which corresponds to the desired value;

thereby enabling placing of the order in accordance with the desired value.

61. The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.

62. The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.

63. The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values.

64. The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.

65. The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.

66. The method of claim 1 further comprising modifying the order icon based on a transaction.

67. The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.

68. The method of claim 1 wherein the values on the first scaled axis of values represent price.

69. The method of claim 1 wherein the item comprises a commodity.

70. The method of claim 63 wherein the marker comprises a line.

71. The method of claim 1 wherein the values on the first scaled axis of values represent a qualitative measure other than price.

72. The method of claim 71 wherein the qualitative measure represents a derivative of price.

73. The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.

74. The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.

75. The method of claim 71 wherein different qualitative measures can be chosen by the user.

76. The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of values corresponding to values associated with the new qualitative measure.

77. The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.

78. The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.

79. The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.

80. The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.

81. The method of claim 79 wherein the contextual data is displayed as a volume graph.

82. The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.

83. The method of claim 1 wherein the first scaled axis is graduated in intervals such that each interval represents a particular value.

84. The method of claim 1 further comprising the step of displaying the values along the first scaled axis of values.

85. The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.

86. A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

a third program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and

a fourth program code for, in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

87. A computer based method for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item;

wherein the plurality of bid indicators and the plurality of offer indicators are displayed at locations corresponding to values along a scaled axis such that the values represent a derivative of price for the item.

88. The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.

89. The method of claim 87 wherein the derivative of price is customizable.

90. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid; and

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order token associated with at least one preset order parameter; and

in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values.

91. The method of claim 90 wherein the user initiated command comprises dragging the order token to the location.

92. The method of claim 90 wherein the at least one preset order parameter comprises a quantity for an order to be sent.

93. The method of claim 90 wherein the at least one preset order parameter comprises a bid type or an offer type.

94. The method of claim 90 wherein the order token represents an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to.

95. The method of claim 90 wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server.

96. The method of claim 95 wherein, in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item.

97. The method of claim 90 wherein the size of the order token is adjustable by the user to reflect the quantity of the order to be sent.

98. The method of claim 90 wherein the order token is associated with a plurality of preset order parameters.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.

Respectfully submitted,

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